TEXTILE TECHNOLOGY DIGEST

VOLUME 14 MARCH, 1957 NUMBER 3

ABSTRACTS

FIBERS A

NATURAL FIBERS A 1

EFFECT OF HEAT AND GINNING OPERATIONS ON SPINNING AND WEAVING. J. L. Delany (Joanna Cotton Mills Co.). (Letter to the editor). Textile Research J. 27: 175-176 (Feb. 1957). (649)

Results of a recent mill test in cooperation with the Inst. of Textile Technology.

GINNING COTTON. C. A. Bennett. U. S. Dept. of Agri., Washington 25, D. C., Nov. 1956. 32 p. Farmers' bulletin no. 1748. Order from Superintendent of Documents, Washington 25, D. C. 30 cents. (650)

The ginning process and ginning machinery. Detailed diagrams and photographs.

EFFECT OF LONG STORAGE ON COTTON. E. E. Berkley (Anderson, Clayton & Co.). (Letter to the editor). Textile Research J. 27: 171-172 (Feb. 1957). (651)

Fiber and spinning data on bales of cotton ginned in 1862 compared with Strict Middling and better 15/16 in. staple cottons for 1953, 1954, and 1955. There was no appreciable deterioration.

VARIATION IN THE DEGREE OF POLYMERIZATION OF FIBERS DRAWN FROM DIFFERENT REGIONS OF A COTTON SEED. C. Nanjundayya. (Letter to the editor). J. Sci. and Ind. Research (India) 15B: 728-729 (Dec. 1956). (652)

The results indicate that the D. P. of fibers drawn from the micropylar region is higher than that of fibers from the chalazal region. The D. P. of the fibers drawn from the sides is intermediate. Table. 7 references.

SIZE AND SHAPE OF THE PAPILLA IN WOOL FOLLICLES. K. M. Rudall (Leeds Univ.). Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F9-F25. (653)

Measurements on dissected wool follicles of Romney lambs show a linear relation between papilla surface area and fiber cross-sectional area. 25 references.

HISTOLOGICAL DEVELOPMENT OF THE SKIN AND WOOL IN THE MERINO FOETUS. M. H. Hardy and A. G. Lyne. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F26-F31. (654)

DEVELOPMENT OF WOOL FOLLICLES FROM FOETAL SHEEP SKIN IN TISSUE CULTURE. M. H. Hardy and A. G. Lyne. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F32-F35. (655)

ANOMALIES IN STRUCTURE AND DEVELOPMENT OF WOOL FIBERS. L. Auber and M. L. Ryder (Wool Industries Res. Assoc.). Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F36-F62. (656)

The normal differentiation of mammalian fibers is described, followed by a detailed account of anomalous conditions found in wool follicles. 30 references. 5 plates.

BLOOD SUPPLY TO THE WOOL FOLLICLE. M. L. Ryder (Wool Industries Res. Assoc.). Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F63-F91. (657)

AXIAL SYMMETRY OF ANIMAL HAIRS. A. Durward and K. M. Rudall (Leeds Univ.). Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F112-F119. (658)

A study of the correlation of follicle shape with axial symmetry of hair fibers is presented. Photomicrographs. 9 references.

FINE HISTOLOGY OF WOOL. E. H. Mercer, J. L. Farrant and A. L. G. Rees. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F120-F129. (659)

Fine histology of wool fibers by electron microscope study of fragments and thin sections. Diagrams. Photomicrographs. 28 references.

MICROFIBRILLAR STRUCTURE OF KERATIN FIBERS. G. M. Jeffrey, J. Sikorski and H. J. Woods. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F130-F141. (660)

Results of experiments in which keratin fibers were subjected to various chemical and physical disintegrative treatments indicate that there are differences in the reactivity of the S-S linkages at different histological levels. Photomicrographs. 18 references.

ORTHO-PARA CORTEX CONCEPT. J. H. Dusenbury and J. Menkart (Textile Res. Inst.). Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F142-F150. (661)

The development of the bilateral structure concept of the keratin fiber cortex is reviewed, and the cortical structures of 64's Rambouillet, human hair, kid mohair, and fleece wool are examined. Photomicrographs. 22 references.

BILATERAL STRUCTURE OF WOOL CORTEX. R. D. B. Fraser and G. E. Rogers. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F151-F155. (662)

Recent investigations of the bilateral structure of the cortex in crimped wool are discussed in terms of histology, the nature of the chemical differences between the components, and the origin of the structure in the follicle. Photomicrographs. 15 references.

PIGMENTED ANIMAL FIBERS: SOME PHYSICAL AND CHEMICAL PROPERTIES. G. Laxer and C. S. Whewell. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F186-F199. (663)

RELATION BETWEEN THE QUALITY OF JUTE AND DEGREE OF POLYMERIZATION OF CELLULOSE. H. Chatterjee and K. B. Pal (Indian Central Jute Comm.). (Letter to the editor). J. Sci. and Ind. Research (India) 15B: 670-671 (Nov. 1956). (664)

Quality characteristics are apparently independent of D.P. and jute pretreatment causes no serious degradation. 7 references.

INTRINSIC STRENGTH OF BAST FIBERS IN RELATION TO THEIR PHYSICAL AND CHEMICAL PROPERTIES. S. M. Betrabet. (Letter to the editor). J. Sci. and Ind. Research (India) 15B: 671-672 (Nov. 1956). (665)

Fiber quality may be assessed from a preliminary examination of small samples for their length to diameter ratio of ultimate cells, nitrogen, fat, and wax contents. Table of physical and chemical properties of 16 bast fibers.

MAN-MADE FIBERS A 2

SUMMARY OF INFORMATION ON MAN-MADE FIBERS, YARNS, AND FABRICS. T. R. McMullen. U. S. Business and Defense Services Admin., Washington 25, D. C., June 1956. 8 p. Business service bulletin no. 111. 10 cents. (666)

Background information on man-made fibers is followed by a bibliography of sources of information from government publications, nongovernment publications, directories, trade associations, and trade journals.

POLYMER PROGRESS: 1957 SERIES. PART 1. NEW FIBERS FROM VINYLIDENE CHLORIDE. J. A. Somers. Man-Made Textiles 33: 44, 47 (Feb. 1957). (667)

Copolymers and the chemistry of Zefran. 6 patent references.

P.V.C. FIBERS: PROPERTIES AND PERFORMANCE. Skinner's Silk & Rayon Record 31: 174-176 (Feb. 1957). (668)

YARN PRODUCTION B

CLEANLINESS IN TEXTILE MILLS. J. White. Textile Mfr. 83: 75-80 (Feb. 1957). (669)

Sources of waste contamination are discussed, as well as a cleaning program for drawframe, speed frames, ring spinning machinery, and mules, etc. Photographs.

OPENING, PICKING, FIBER PREPARATION B 1

MODERN OPENING OF COTTON. C. Warrington (Tweedales & Smalley Ltd). Textile Wkly. 57: 451-456 (Feb. 15, 1957). (670)

Chiefly about the Shirley opener. The lap doffer of the Tweedales & Smalley picker and the Northmoor rotary filter are also briefly described.

CONSTANT COTTON CONTENT. J. L. Delany (Joanna Cotton Mills). Instrumentation 10: 7-8 (Jan.-Feb. 1957). (671)

Moist-O-Graph instruments were used for continuously measuring and recording the actual cotton stock regain at the picker calender rolls. When moisture allowances for pickers were based on these readings, yarn variation decreased about 12%.

CARDING AND COMBING B 2

HOW TO INCREASE CARD PRODUCTION. J. F. Bogdan and H. K. C. Woo (N. C. State College, School of Textiles). Textile World 107: 131-140 (Mar. 1957). (672)

An extensive 16-mill cooperative research study on increasing cotton card production revealed that production can be increased nearly 60% above present mill rates with no mechanical changes and no loss in yarn quality by means of integrated speeds and settings throughout the card and the use of the Abington roller doffer (Rolaslivup).

COMBING QUALITY CONTROL. M. Chagro. Textile Ind. 121: 103-105 (Mar. 1957). (673)

A quality control program for successful combing includes periodic checks of the half lap, top comb, and percentage noil removal.

MODERN WOOL COMBING PRACTICE. PART 9. THE RECTILINEAR COMB. R. Walker. Textile Mfr. 83: 69-71 (Feb. 1957). (674)

The various types of rectilinear combs are listed, and their operation described. Photograph. Diagrams.

WOOL COMBING. J. R. S. Raper. J. Bradford Textile Soc.: 73-85 (1955-56). (675)

The history of wool combing in England is reviewed.

SPINNING, WINDING, TWISTING B 4

BALLOON CONTROL. P. F. Grishin. T.M.M. (Research) Ltd., Helmshore, Lancs., England, 1956. 74 p. (676)

These papers have been revised and reprinted from Platts Bulletin. Part 1, general theory of the balloon; part 2, general theory of yarn tension; part 3, control of the collapsing balloon; part 4, refinements of the theory; part 5, applications of the theory. References.

TRAVELER SPEEDS ON GWALTNEY FRAMES. F. Paget (Werthan Bag Corp.). Textile Ind. 121: 87-92 (Mar. 1957). (677)

Mill experiences and experimentation with high speed spinning of 20s cotton yarn on 3 in. rings on the Gwaltney SG-1 frame are described in detail. Recommendations are made on traveler design and ring breaking-in procedures. The author lists 14 conclusions concerning speeds above 6500 fpm.

SUPERCOP VERSUS PIRNWINDER. M. A. R. Muschamp. Textile Mfr. 83: 64-66 (Feb. 1957). (678)

The development and operative features of the Muschamp Supercop 125 winder are described, and the advantages of the larger package summarized. Photographs.

COTTON PLY-YARN WINDING. F. Vogel. Textile World 107: 124-125, 206, 208 (Mar. 1957). (679)

A procedure for winding ply yarn on double-head spools is outlined. Diagrams.

SPOOLING AND WINDING MACHINERY FOR MAN-MADE FIBERS. J. Schneider. Reyon Zellwolle Chemiefasern 7: 26-35 (Jan. 1957). In German. (680)

Survey of spooling and winding machinery and operating methods. Diagrams. Photographs.

YARNS B 5

DEVELOPMENT OF HIGH TENACITY-HEAT STABLE DACRON YARNS. R. J. Coskren and T. T. Constantine. Fabric Research Labs., Dedham, Mass., Sept. 1956. 57 p. Order from Office of Technical Services, Washington 25, D. C. $1.50. PB 121 566. (681)

Cyclical yarn stressing and relaxing processes at elevated temperatures were found to produce a yarn of the desired high tenacity, nominal rupture elongation, and low shrinkage, provided that the yarn was allowed to relax completely after the last stressing cycle.

TENSILE MECHANICS OF SOME BLENDED WOOLEN YARNS. M. J. Coplan. Fabric Research Labs., Dedham, Mass., 1955. 119 p. Order from Office of Technical Services Washington 25, D. C. $3.00. PB 121 343. (682)

A series of 55 blended woolen type wool/nylon and wool/viscose yarns, varying in twist and composition, were examined and their tensile behavior interpreted in terms of the intrinsic fiber properties, their own geometry, and the geometry of the yarns.

IMPACT-ABSORBING CAPACITY OF TEXTILE YARNS. J. C. Smith, F. L. McCrackin and H. F. Schiefer. ASTM Bull. No. 220: 52-56 (Feb. 1957). (683)

The limiting breaking energy density or energy per gram of yarn required for an immediate impact break is suggested as a suitable parameter for characterizing the impact-absorbing property. 7 references.

TRACING DEFECTS IN WORSTED YARNS. Fibre and Fabric 110: 6-7, 19 (Jan. 1957). (684)

FABRIC PRODUCTION C

WARPING, SLASHING, YARN PREPARATION C 1

WARP SIZING. PART 11. P. V. Seydel. Textile Ind. 121: 110-119 (Mar. 1957). (685)

The properties of a well-sized warp are outlined and testing procedures for weavability and moisture and size content are described.

WARPING AND SECTION-SIZING IN ONE MACHINE. Tsudakoma Industrial Co. Ltd. Skinner's Silk & Rayon Record 31: 172 (Feb. 1957). (686)

This Japanese A type high-speed warping slasher combines warping and section sizing for rayon warps on loom beams for smaller mills with 100 to 150 looms.

LOOM-ACTION-TYPE ABRADER. P. C. Mehta and C. C. Shah (Ahmedabad Textile Industry's Res. Assoc., India). (Letter to the editor). Textile Research J. 27: 169-170 (Feb. 1957). (687)

A dummy loom for evaluating the weavability of sized yarns is described.

WEAVING C 2

FOG-MARKING AND ITS PREVENTION. D. Finlayson (Brit. Celanese Ltd). J. Textile Inst. 48: P55-P65 (Jan. 1957). (688)

The fog-marking of woven fabric can be wholly prevented by the use of 2 discs per loom of the radioactive element strontium 90. Figures for permissible radiation levels and values found experimentally around looms when units are in use are given, and necessary safety precautions described. Photographs. Diagrams. 8 references.

FABRIC DESIGN ON THE AUTOMATIC LOOM. PART 6. A. L. M. Bayoumi. Textile Recorder 74: 52-54, 74 (Jan. 1957). (689)

Features of Crompton & Knowles S-6 automatic bobbin-changing looms. Photographs. Diagrams.

PAPA LOOM. W. C. Howe (Crompton & Knowles Corp.). Textile Bull. 83: 87-90 (Feb. 1957). (690)

Operating advantages and mechanical features of the PAPA automatic loom, a pick and pick 4 x 3 box loom, are described. Photographs.

KNITTING C 3

KNITTING POWER NET. L. E. Licht. Textile World 107: 144-145, 218-222 (Mar. 1957). (691)

Pointers on rubber gauge, relative humidity, warp conditioning, and knitting techniques for eliminating imperfections in two-way stretch fabrics on raschel-type warp knitting machines.

KNITTED REVERSIBLE PATTERNS. L. Prelog. Textile World 107: 120-121 (Mar. 1957). (692)

A method of laying out designs for pattern-wheel knitting machines is described which allows fabric to be reversed on the cutting table without overlapping the motifs.

PATTERNING PRINCIPLES IN WEFT KNITTING. PART 5. FANCY EYELET CONSTRUCTIONS. J. Rab. Man-Made Textiles 33: 48-49 (Feb. 1957). (693)

FF HOSE KNITTING AT 100 COURSES PER MINUTE. William Cotton Ltd. Hosiery Trade J. 64: 80-81 (Feb. 1957). (694)

Operational features of the Bentley-Cotton model M.

PIECE-GOODS RIB INTERLOCK PRODUCTION FOR OUTERWEAR. Mayer & Cie. Hosiery Trade J. 64: 82-83 (Feb. 1957). (695)

Mayer 8-lock model.

FULLY-FASHIONED OUTERWEAR EQUIPMENT. S. A. Monk (Sutton-in-Ashfield) Ltd. Hosiery Trade J. 64: 92-94 (Feb. 1957). (696)

All-sinker Super-Rapid model with variable-speed carrier drive.

WIDER PATTERNING SCOPE ON DOUBLE CYLINDER MACHINES. J. R. Thornton. Hosiery Trade J. 64: 64-67 (Feb. 1957). (697)

Bentley Komet model CP for men's fancy socks is described and illustrated.

BORDERS AND CUFFS FOR FULL-FASHIONED GARMENTS. J. B. Lancashire. Hosiery Trade J. 64: 74-76 (Feb. 1957). (698)

Kiddier bearded needle rib machine.

FOCUS ON PURL KNITTING. J. B. Lancashire. Hosiery Times 30: 51-57 (Feb. 1957). (699)

Construction and operation of modern single-system flat purl machines and double-cylinder latch needle machines are described. Photographs.

FABRICS C 4

GRAPHICAL RELATIONSHIPS IN CLOTH GEOMETRY FOR PLAIN, TWILL, AND SATEEN WEAVES. L. Love. U. S. Army, Quartermaster Research and Development Center, Natick, Mass., Sept. 1955. 23 p. Order from Library of Congress, Photoduplication Service, Washington 25, D. C. Microfilm, $2.70. Photostat, $4.80. PB 122 903. (700)

Weavability graphs are presented which show the maximum theoretical textures of cotton fabrics in terms of the ratio of filling-yarn diameter to warp-yarn diameter and cover factors for plain, 3-harness, 4-harness, and 5-harness satin weave fabrics. The equations used to develop the curves are presented and discussed. Yarn displacement of various weave fabrics in terms of [illegible] spacing and crimp is also presented in graphic form along with equations which can be used for the determination of both warp and filling crimps necessary in a wide range of weaves to achieve desired values of height and spacing.

EFFECTS OF LAUNDERING AND DRYCLEANING ON LABORATORY PERFORMANCE OF CERTAIN RESIN-FINISHED WINTER COTTONS. E. E. Stout, C. L. Zillgitt and M. R. Ferraro (Cornell Univ.). J. Home Econ. 49: 197-202 (Mar. 1957). (701)

The purposes of this study were: (1) to determine the effect of a series of drycleanings, hand washings, and automatic-machine washings on the physical characteristics of 9 winter cotton fabrics; and, since an abrasion machine was available which made such study possible, (2) to determine the effect of abrasion alternated with these cleaning methods on the physical characteristics of the fabrics. 3 references.

PERFORMANCE OF DACRON-AND-COTTON SHIRTS COMPARED WITH ALL-COTTON GARMENTS OF SIMILAR CONSTRUCTION. P. E. Keeney (Univ. of North Carolina). J. Home Econ. 49: 187-191 (Mar. 1957). (702)

The performance of 70 shirts was studied to compare Dacron/cotton garments with similar all-cotton garments by laboratory observations and opinions expressed by the 10 wearers. 4 references.

OIL STAINS ON MAN-MADE FIBER FABRICS. D. Rowley and S. Kalinowski. Textile Wkly. 57: 335, 337 (Feb. 1, 1957); 403-406 (Feb. 8, 1957). (703)

Causes and suggestions for removal.

INDUSTRIAL BELTING. Textiles in Industry 2: 3-16 (Jan.-Feb. 1957). (704)

Belting survey: review of developments in the industry; microbicidal belting; woven belting: modern designs and applications; nylon belting and drives; and Terylene for conveyor belting.

INDUSTRIAL FABRICS. PART 1. R. B. Pressley. Textile World 107: 99-117 (Mar. 1957). (705)

This series of short articles includes information on end uses, new machinery, synthetic fiber duck, tire cord fabrics, and automobile upholstery fabrics and safety belts.

EFFECTS OF CHEMICALS ON THE PROPERTIES OF PARACHUTE FABRICS. J. G. Templeton. North Carolina State College, School of Textiles, Raleigh, N. C., Sept. 1956. 216 p. Order from Office of Technical Services, Washington 25, D. C. $4.00. PB 121 679. (706)

Nylon and Dacron fabrics were exposed to sulfuric, hydrochloric, nitric, phosphoric, sulfurous, hydrosulfuric, and nitrous acids for periods up to 6 months. Dacron was found to be quite resistant to attack by mineral acids in comparison with nylon. Acid-treated nylon was more sensitive to light than acid-treated Dacron.

DEVELOPMENT OF DACRON PARACHUTE MATERIALS. E. R. Kaswell and M. J. Coplan (Fabric Research Labs.). Wright Air Development Center, Wright-Patterson Air Force Base, Ohio, 1956. 154 p. WADC technical report 55-135. (707)

Evaluation of selected Dacron threads, braids, cloths, webbings, ribbons, and tapes for use in parachutes to replace nylon for use at temperatures in the 350-400° F range. Dacron had significantly better heat degradation resistance.

DEVELOPMENT OF STATIC LINE WEBBING FOR THE T-10 PARACHUTE SYSTEM. P. Y. Stanton. Wright Air Development Center, Wright-Patterson Air Force Base, Ohio, Nov. 1956. 31 p. WADC technical report 56-257. (708)

A silk webbing and a linen webbing were developed, along with 6 nylon webbings each of which had a different elongation. The nylon appeared most satisfactory, since the raw silk is unavailable and the elongation and energy absorption qualities of linen were too low.

ADHESIVES FOR VINYL FILM LAMINATIONS. S. Gold. Modern Plastics 34: 208-210, 296 (Mar. 1957). (709)

Review of the vinyl film lamination field, covering end uses, types of adhesives used, types of laminations made, and methods of laminating, together with a discussion of techniques for lamination and evaluations of laminations made.

MECHANICAL PROPERTIES OF POLYESTER LAMINATES REINFORCED WITH HIGH MODULUS GLASS FABRIC. F. Werren. U. S. Forest Products Lab., Madison, Wis., 1956. 22 p. Order from Office of Technical Services, Washington 25, D. C. 75 cents. PB 121 683. (710)

Comparative strength tests of three polyester laminates reinforced with glass fabric and of differing resin content are presented.

TEMPERATURE-PROPERTY RELATIONS IN MELAMINE- AND SILICONE-GLASS FABRIC LAMINATES. W. N. Findley, H. W. Peithman and W. J. Worley. Modern Plastics 34: 185-206 (Mar. 1957). (711)

Results of static tension, static compression, tension creep, and time-to-fracture tests of melamine- and silicone-glass fabric laminates at temperatures up to 400 and 600° F, respectively. Tables. Graphs. 10 references.

DESIGN IN WOVEN STRUCTURE. PART 50. COMBINING DOUBLE AND SINGLE CLOTH STRUCTURE. D. C. Snowden. Wool Rev. 30: 32-33 (Feb. 1957). (712)

FINISHING AND CHEMICAL PROCESSING D

TECHNICAL MANUAL AND YEARBOOK, VOL. 32, 1956. American Assoc. of Textile Chemists and Colorists, P. O. Box 28, Lowell, Mass., 1956. 626 p. $6.00. (713)

Organization, committee reports, AATCC test methods, bibliography of 910 references (with subject index), books (1932-1956), dyestuffs and textile chemical specialties, buyers' guide, membership list.

ELECTRONIC INSTRUMENTS USED IN FINISHING. F. A. Westbrook. Textile Mfr. 83: 67-68 (Feb. 1957). (714)

Brief details of the application of an electronic pH meter, a photoelectric reflection meter, and a reflection meter with mirror galvanometer, to measurements during finishing. Photographs.

ELECTRONIC CONTROLS IN THE FINISHING PLANT. L. Walter. Textile Bull. 83: 90-93 (Feb. 1957). (715)

Examples cited include bag stacking by predetermined count, J-box cloth level control, safeguarding rollers, electronic cutting knife, and tenter edge position control. Diagrams.

CHEMICAL PROCESSES D 1

COMPRESSIVE FINISHING METHODS. A. J. Hall. Textile Recorder 74: 77-78 (Feb. 1957). (716)

The production of fabrics with puckered, blistered, and seersucker effects.

PROGRESS IN THE ART OF BLEACHING. B. K. Easton and N. Weinberg (Becco Chem. Div., Food Machy. & Chem. Corp.). Am. Dyestuff Reptr. 46: P161-P164 (Mar. 11, 1957). (717)

The history of bleaching from earliest times to the present. Several recent developments for bleaching cellulosic and protein fibers are discussed. 4 references.

CHEMICAL MODIFICATION OF COTTON BY REACTION WITH ACTIVATED OLEFINIC COMPOUNDS. J. W. Frick, W. A. Reeves and J. D. Guthrie (Southern Regional Res. Lab.). Textile Research J. 27: 92-99 (Feb. 1957). (718)

Results of a preliminary screening of the reaction of cotton fabrics with a number of activated olefinic compounds, in the presence of catalytic amounts of alkaline reagents, to produce useful chemically modified cottons that are insoluble in water or in alkaline solutions. 19 references.

FIBROUS CELLULOSE ESTERS BY TRIFLUOROACETIC ANHYDRIDE METHOD. C. Hamalainen, R. H. Wade and E. M. Buras, Jr. (Southern Regional Res. Lab.). (Letter to the editor). Textile Research J. 27: 168 (Feb. 1957). (719)

The preparation of a wide variety of fibrous esters by the trifluoroacetic anhydride method is reported. 5 references.

NEW TEXTILE PRODUCTS FROM PARTIALLY ACETYLATED COTTON. E. M. Buras, Jr. and R. M. Persell. Southern Utilization Research Branch, 1100 Robert E. Lee Blvd., New Orleans, La., Sept. 1956. 24 p. ARS 72-4. Free. (720)

Information on the nature, properties, uses, availability, and estimated costs of partially acetylated cotton. 22 references.

EPOXY RESINS IN THE CREASEPROOFING OF COTTON. C. W. Schroeder and F. E. Condo (Shell Development Co.). Textile Research J. 27: 135-145 (Feb. 1957). (721)

The chemistry of the epoxy group is discussed. Catalysts suitable for the use of epoxy resins in creaseproofing cotton are listed, and the properties obtained with epoxy resins are qualitatively compared with those associated with other creaseproofing agents. 3 references.

SIMPLIFIED RELATIONSHIP BETWEEN THE PROPERTIES OF RESIN-FINISHED COTTON FABRIC AND THE SOLIDS APPLIED. S. H. Foster (Monsanto Chem. Co.). Textile Research J. 27: 129-135 (Feb. 1957). (722)

Wrinkle recovery, tensile strength, and tear strength of resin-finished cotton vary directly as the logarithm of the resin solids applied. In addition, at a constant resin solids the same properties also vary as the logarithm of the catalyst concentration, but over a much narrower range. 4 references.

COMPARISON OF WRINKLE-RESISTANT FINISHES FOR COTTON. T. F. Cooke, P. B. Roth, J. M. Salsbury, G. Switlyk and W. J. van Loo (Am. Cyanamid Co.). Textile Research J. 27: 150-165 (Feb. 1957). (723)

The results of an extensive study of the application of urea, modified urea (ethylene urea), melamine, and modified melamine formaldehyde resins using ammonium, alkanolamine, and metallic inorganic salt accelerators to cotton fabric are presented to enable a cotton fabric finisher to select the optimum resins and conditions of application to obtain the wrinkle-resistant finish best suited for the specific fabric properties desired. 9 references.

MECHANISM OF CREASE RESISTANCE DEVELOPMENT ON CELLULOSIC FABRICS TREATED WITH DIMETHYLOL ETHYLENE UREA. H. C. Walter, J. K. Buxbaum and L. Q. Green (E. I. du Pont de Nemours & Co.). Textile Research J. 27: 146-149 (Feb. 1957). (724)

Evidence for the cross-linking of dimethylol ethylene urea with cellulose is presented. 12 references.

EFFECT OF CHEMICAL MODIFICATION ON THE FLAME AND GLOW RESISTANCE OF COTTON CELLULOSE. E. Pacsu and R. F. Schwenker, Jr. (Textile Research Inst.). (Letter to the editor). Textile Research J. 27: 173-175 (Feb. 1957). (725)

A new series of chemically modified cottons, mesyl halocelluloses and mesyl phosphohalocelluloses, with good flame and glow resistance, are described. 9 references.

ROT-RESISTANT TREATMENTS FOR ELASTOMER-COATED FABRICS: EVALUATION. J. M. Ashcroft. U. S. Army Corps of Engineers, Engineer Research and Development Labs., Fort Belvoir, Va., 1955. 51 p. Order from Office of Technical Services, Washington 25, D. C. $1.25. PB 121 420. (726)

Active fungitoxic components of commercially available rot-resistant treatments applied to cotton fabrics subsequently coated with elastomers were evaluated to determine whether interactions between fungitoxicant and coating might impair the functioning of either, or of the base fabric.

TECHNICAL SEMINAR ON SYNTHETIC LATEX POLYMERS. Goodyear Tire & Rubber Co., Akron, Ohio, 1956. 44 p. (727)

The synthetic latex industry, by H. R. Thies; Theoretical consideration of polymerization and latex characteristics, The course of a product development, by J. D. D'Ianni; Properties of latex systems and evaluation procedures, Influence of latex variants on important performance characteristics, by W. C. Smith; Sources of materials for latex manufacture, Production of synthetic latex, Types of latex commercially available, by R. S. Earhart and A. E. Polson; Survey of latex applications and potentials, by E. W. Scott.

THE WAY WE WASH OUR CLOTHES. Consumers' Research Bull. 39: 13-14 (Mar. 1957). (728)

A controlled laboratory wash test using 8 different combinations of settings on automatic home washing machines. 8 blouses made of a punched-out Dacron fabric and 8 slips made of nylon tricot were paired and each set washed separately in order to obtain information on the effect of water temperature, speed of agitator, and length of the wash cycle on garment appearance and durability.

DYEING AND PRINTING D 2

RECENT DEVELOPMENTS IN DYEING POLYACRYLONITRILE FIBERS. B. C. M. Dorset. Textile Mfr. 83: 85-89 (Feb. 1957). (729)

Examples of the lines of research in overcoming dyeing difficulties with polyacrylonitrile fibers, e.g., modification of fiber-forming polymers, modification of fibers, use of new fiber-forming polymers, and development of new dyes are discussed with patent and literature citations.

DYEING BLENDED FABRICS CONTAINING ORLON TYPE 42. J. P. Neary. Du Pont Tech. Bull. 12: 159-176 (Dec. 1956). (730)

Techniques are described for the simultaneous dyeing of both components of blends of Orlon 42 with wool, with cellulosic fibers, and with Dacron in single-bath systems. Conditions which require 2-bath operations are also defined. Advantages of the more-dyeable Orlon staple and a new retarding agent, Du Pont Retarder DO, are briefly discussed. 9 references.

DEVELOPMENT OF DYEING FORMULATIONS FOR WOOL/SYNTHETIC BLENDS FOR USAF SHADE BLUE 84. R. J. Peirent and A. Katz. Lowell Technological Inst. Research Foundation, Lowell, Mass., Oct. 1956. 110 p. Order from Office of Technical Services, Washington 25, D. C. $2.75. PB 121 756. (731)

HIGH-TEMPERATURE SOLVENT DYEING PROCESS. Fontaine Converting Works. Dyer 117: 135 (Jan. 18, 1957). (732)

A high-temperature dyeing process for dyeing cellulosic, polyester, and acrylic fibers in very short processing times is described in Brit. patent 760 041. The dyestuff is applied at a relatively very high temperature in a carrier consisting of an organic liquid which is soluble in or miscible with water and does not evaporate at the temperature of the treatment (as diethylene glycol), and then removing the liquid carrier together with any excess dyestuff from the material.

PIGMENT PADDING. J. A. Clarke. Textile Mfr. 83: 90-92 (Feb. 1957). (733)

The cloth, pigment suspension, mangle, and fixing requirements for ensuring maximum penetration of pigments are discussed.

DU PONT FLOWSTOCK PROCESS. Du Pont Tech. Bull. 12: 184-186 (Dec. 1956). (734)

The laboratory model and procedure for the Flowstock process of continuously applying vat dyes to cotton and rayon rawstock, or other fibers that can be dyed in a relatively short time, are described. Diagram.

INTERNAL APPLICATION OF COLOR IN THE MANUFACTURE OF MAN-MADE FIBERS. E. I. Birnbaum and others (Canadian Assoc. Textile Colourists & Chemists). Am. Dyestuff Reptr. 46: P125-P130 (Feb. 25, 1957). (735)

Following a brief historical account, recent and current methods for producing spun-dyed man-made fibers are discussed. Specific methods are described, the pigments involved are classified, and the physical properties of some commercially available spun-dyed fibers are tabulated. 14 references.

DU PONT PONTAMINE WHITE DYES. Du Pont Tech. Bull. 12: 187-190 (Dec. 1956). (736)

Comparative properties of the Pontamine dyes are tabulated, and recommendations are given for their use.

DIRECT COTTON DYES. PART 1. T. S. Gore, M. K. Unni and K. Venkataraman. J. Sci. and Ind. Research (India) 15B: 618-626 (Nov. 1956). (737)

Chromatographic purification and crystallization of Congo Red, Benzopurpurine 4B and Chrysophenine G. 22 references.

PEROXIDE BLEACH FASTNESS RATINGS FOR VAT DYES ON COTTON. Du Pont Tech. Bull. 12: 198-200 (Dec. 1956). (738)

Ratings for shade change and staining of cotton for each of the du Pont vat dyes are included in a table. The AATCC peroxide bleach test was used.

PRINTING OF LUSANE BRILLIANT BLUE B. Du Pont Tech. Bull. 12: 193-197 (Dec. 1956). (739)

The preparation of Lusane brilliant blue B printing paste and recommendations for its application are outlined.

SAVAGRAPH VAT EMULSION PRINTING PROCESS. Du Pont Tech. Bull. 12: 177-183 (Dec. 1956). (740)

Savagraph is a Du Pont development for the printing of cellulosic fiber fabrics. The process incorporates Vantasol dyes in a unique water-in-oil emulsion which is printed onto fabrics from conventional equipment and then dried. The prints are developed by impregnation with reducing agents and alkali, steaming, and then oxidizing and soaping.

HISTORY OF THE ART OF TEXTILE PRINTING. H. P. Baumann (Am. Aniline Products, Inc.). Am. Dyestuff Reptr. 46: P165-P170, P180 (Mar. 11, 1957). (741)

DRYING D 4

FAR-INFRARED RADIANT HEATING FOR TEXTILE FINISHING. W. L. Thomson (Edwin L. Wiegand Co.). Am. Dyestuff Reptr. 46: P171-P175 (Mar. 11, 1957). (742)

Principles and description of apparatus and methods. Photographs.

TESTING AND MEASUREMENT E

NEW COTTON LUSTERMETER FOR YARNS AND FIBERS. D. Nickerson (U. S. Agri. Mktg. Serv.). Textile Research J. 27: 111-123 (Feb. 1957). (743)

A single-answer, direct-reading instrument for measuring luster of raw cotton and grey and mercerized yarns is described. Luster, sample preparation and holder, the instrument, calibration, and luster results for the USDA's Standardized Variety Series of cottons are discussed and summarized. Tables. Graphs. Photographs. 8 references.

FIBERS E 1

DETECTION OF FUNGAL GROWTH IN CELLULOSIC TEXTILES. G. R. F. Rose, M. Mitton, B. J. Gardner, D. M. Laird and C. H. Bayley (National Research Labs., Ottawa, Canada). Textile Research J. 27: 99-110 (Feb. 1957). (744)

The modified Pianese IIIb staining test for the detection of fungal hyphae in cellulosic fibers depends on a simple differentiation in color between fungal hyphae and substrate. The test may also be used in estimating cotton maturity and in detecting fungal damage in raw cotton. A survey of previously described staining methods for microbiological damage is included. 37 references.

STRENGTH TESTS OF FIBER ARRAYS. D. H. Patt and C. R. Stock (Am. Cyanamid Co.). Textile Research J. 27: 124-128 (Feb. 1957). (745)

Good agreement between tests for strength and maximum strain in single fiber and fiber bundles can be obtained by measurement of the energy absorbed in rupture. Strength, maximum strain, and associated measures of variability can be calculated from energy via the tenacity-strain function for the fiber type. Good agreement with single fiber measurements was obtained for acrylic fibers in the form of tow. 5 references.

OPTICAL DIFFRACTION PATTERNS OF TWISTED FIBERS. P. K. Katti and M. T. Chiplonkar. J. Sci. and Ind. Research (India) 15B: 673-676 (Dec. 1956). (746)

An experimental procedure for quantitatively determining the extent of twist in fibers by means of optical diffraction patterns is described. Diagrams.

SURFACE STRUCTURE OF WOOL FIBERS. N. Ramanathan, J. Sikorski and H. J. Woods (Leeds Univ.). Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F92-F105. (747)

Two methods of obtaining SiO replicas of wool fiber surfaces are described, both yielding replicas showing much more detail in the scale surfaces than has previously been reported. Photomicrographs. 22 references.

NEW ASPECTS OF THE FINE HISTOLOGY OF WOOL. R. D. B. Fraser and G. E. Rogers. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F106-F111. (748)

The value of metal shadowing in optical microscopy for investigating the fine histology of wool is emphasized and examples of its application are described. Photomicrographs. 18 references.

STRUCTURE AND IDENTIFICATION OF WOOL AND OTHER ANIMAL TEXTILE FIBERS. A. B. Wildman (Wool Ind. Res. Assoc.). Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F156-F175. (749)

Outline of the principles which should govern the manipulation of samples and fibers for identification purposes and a suggested approach to the interpretation of microscopic features, particularly scale pattern, of animal fibers. Diagrams. Photomicrographs. 3 references.

SEPARATION OF CORTICAL CELLS OF TWO TYPES FROM DISINTEGRATED WOOL BY MEANS OF DENSITY GRADIENT COLUMNS. H. P. Lundgren. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F200-F204. (750)

YARNS E 2

HOW MUCH TWIST IN YARN OR ROVING? O. E. Heiberg. Textile Merc. 136: 281-283, 299 (Feb. 15, 1957). (751)

An outline of the universal percent twist system. 5 references.

FABRICS E 3

WEAR TEST WITH THE ACCELEROTOR. A. R. Macormac and F. M. Richardson. Am. Dyestuff Reptr. 46: 149-151 (Feb. 25, 1957). (752)

The object of this study was to correlate the number of fibers per yarn cross section, the number of fiber ends per fiber per inch, and the character of the fiber ends with treatment in an Accelerotor for various periods of time. Three worsted whipcords were tested. After the initial period of 15 minutes, the fabrics showed a consistent loss of weight with increasing time. The wool/nylon blend was more resistant than the all-wool or the wool/rayon fabrics. Data from microscopic examination of fiber ends confirmed this conclusion. The percentage of worn wool ends consistently increased with increased time, indicating a good method for measuring the abrasive damage received by wool fabrics in this machine. 5 references.

USE OF ACCELEROTOR FOR LAUNDERING TERRY TOWELS. R. H. Paulk (Oklahoma A. & M. College). J. Home Econ. 49: 192-196 (Mar. 1957). (753)

Cotton terry towels should absorb moisture quickly and effectively. Many different weights, in a range of prices, are available in retail outlets. This study was designed to obtain information to help a consumer in her selection of a towel weight which would provide the absorption properties needed for the desired end-use. The Accelerotor was used in experimental work to determine effect of laundering and use on thickness, weight, and absorption. 6 references.

OTHER E 4

ASSAY OF CYANOETHYLATED COTTON. G. E. Journeay and J. E. Blackmon (Monsanto Chem. Co.). (Letter to the editor). Textile Research J. 27: 166-167 (Feb. 1957). (754)

Since the modified Kjeldahl procedure is not generally satisfactory for the assay of cyanoethylated cotton, it is recommended that the standard Kjeldahl procedure be used at all times.

PRACTICAL FASTNESS TESTING. P. R. Dawson (Imperial Chem. Ind. Ltd). Dyer 117: 273-276 (Feb. 15, 1957). (755)

Some recent changes and the development of international tests, fading lamp operation, and artificial perspiration are briefly discussed in this lecture.

TESTS FOR ALUMINUM AND HYDROXYTRIPHENYLMETHANE DYES. F. Feigl and D. Goldstein. Anal. Chem. 29: 456-458 (Mar. 1957). (756)

BIBLIOGRAPHICAL ABSTRACTS OF METHODS FOR ANALYSIS OF SYNTHETIC DETERGENTS, 1888-1956. J. C. Harris and R. Bernstein. Am. Soc. for Testing Materials, 1916 Race St., Philadelphia 3, Pa., 1956. 39 p. Special technical publication no. 150-A. $1.50. (757)

311 abstracts, with subject and author indexes.

INDUSTRIAL ENGINEERING F

OPERATIONS RESEARCH: A BASIC APPROACH. American Management Assoc., 1515 Broadway, New York 36, N. Y., 1956. 111 p. Special report no. 13. $3.75. (758)

Illustrative examples of operations research in industrial, economic, and military applications.

OPERATIONS RESEARCH. R. L. Ackoff and others. Chem. Eng. Progr. 53: 3J-24J (Jan. 1957). (759)

A series of short articles on: what operations research is, how it functions, and how it can save costs and increase production, p. 3J-7J; analysis of reactions and positions among members of a group, p. 8J-10J; applications of statistical quality control to OR, p. 11J-13J; applications illustrated from production scheduling, p. 14J-16J; applications of OR in the Texas Div. of Dow Chemical Co., p. 17J-20J; and applications of OR in the Monsanto Chemical Co., p. 21J-24J. References.

HUMAN ENGINEERING BIBLIOGRAPHY. I. N. McCollom and A. Chapanis. San Diego State College Foundation, San Diego 15, Calif., 1956. 128 p. $4.00. (760)

Close to 6,000 articles on human factors involved in equipment design are listed, classified by 16 major categories and about 100 subheadings. Design of equipment for human use and setting up of man-machine systems were considered in selecting articles for inclusion.

COST BEHAVIOR. H. H. Norcross. Cost Accountant 35: 217-221 (Dec. 1956). (761)

Examples of cost analysis and forecast under fluctuating conditions of production and marketing.

MANAGEMENT'S RESPONSE. L. L. Ross. Cost Accountant 35: 230-238 (Dec. 1956). (762)

Evaluation, from a management viewpoint, of modern administrative and control tools, including decision-making, servo-systems, operations research, planning, and costing.

MACHINERY AND MAINTENANCE F 1

REPLACEMENT AND RENOVATION OF TEXTILE MACHINERY AND EQUIPMENT. O. K. Bose. Indian Textile J. 67: 46-50 (Oct. 1956). (763)

A program of replacements and overhaul is recommended, based upon systematic record keeping and analysis.

CAPITAL BUDGETING AND GAME THEORY. E. G. Bennion. Harvard Business Rev. 34: 115-123 (Nov.-Dec. 1956). (764)

Use of mathematical probability statistics in capital budgeting for industrial plant investment.

ESSENTIALS OF MACHINERY PROCUREMENT AND DEVELOPMENT. American Management Assoc., 1515 Broadway, New York 36, N. Y., 1956. 71 p. Special report no. 14. $2.50. (765)

Presents the important factors in machinery procurement (financial, tax, budgeting, and allocation) illustrated from practical examples of actual planning and coordination of capital equipment acquisition (data preparation, engineering evaluation, and overall programming).

QUALITY CONTROL F 3

TOTAL QUALITY CONTROL. A. V. Feigenbaum. Harvard Business Rev. 34: 93-101 (Nov.-Dec. 1956). (766)

Use of statistical sampling plans, process control, and design-processing-performance analysis in achieving improved quality at reduced costs is discussed from a viewpoint of "total quality control" to achieve these competitive aims in today's economy.

QUALITY CONTROL AND JUTE INDUSTRY. S. B. Bandyopadhyay. Jute Bull. 19: 167-169 (Nov. 1956). (767)

Discussion of quality control applications in jute.

SCIENCES G

CHEMISTRY G 1

INVESTIGATION OF THE ADSORPTION OF DETERGENT AND BUILDERS ONTO COTTON AND SOIL BY RADIOTRACER METHODS. T. F. Boyd and R. Bernstein. J. Am. Oil Chemists Soc. 33: 614-619 (Dec. 1956). (768)

The effect of various builders on the adsorption of a long-chain alkylbenzene sulfonate on cotton and soils and the adsorption of builders on cotton and soils was studied by means of radioactive techniques. It was concluded that the beneficial effect of builders may be chiefly due to the nature of builder-detergent solution effects, e.g., ability to prevent redeposition of soil. At moderate concentrations, polyphosphates do not promote soil deposition onto cotton, but more alkaline builders do promote soil deposition. 20 references.

WATER TRANSPORT MECHANISMS IN TEXTILE MATERIALS. PART 2. CAPILLARY-TYPE PENETRATION IN YARNS AND FABRICS. N. R. S. Hollies, M. M. Kaessinger, B. S. Watson and H. Bogaty (Harris Research Labs.). Textile Research J. 27: 8-13 (Jan. 1957). (769)

Comparative studies of the rate of movement of water along fabrics show that the penetration of the capillaries formed by the fibers in the yarns accounts for most aspects of water transport behavior and is influenced by the randomness of the arrangement of the fibers in the yarns. Since the drop absorption technique seems to relate well to the actual water transport rates observed in fabrics, it may be used as a simple means for assessing fiber arrangement in the yarns of fabrics, particularly in the preparation of blends in which the fiber arrangement has been altered to change the yarn and fabric properties. 8 references.

ACTUAL AND POTENTIAL DEGRADATION OF CELLULOSE FIBERS. A. Meller (Australian Paper Mfrs. Ltd., Melbourne). Australian Pulp & Paper Ind., Tech. Assoc. Proc. 9: 192-208 (1955). Through Chem. Abstracts 51: 701 (1957). (770)

In an attempt to clarify the terms "degradation," "overcooking," and "overbleaching," the author differentiates between actual and potential degradation. The hydrolytic degradation of cellulose is an example of actual degradation, and this type of degradation cannot be reversed. An example of potential degradation involves the oxidation of some functional OH groups, which may render the chains very vulnerable to subsequent alkaline attack. Examples of potential degradation that occur in processing cellulose fibers in the textile or pulp industries are given.

CELLULOSE DERIVATIVES. Ind. Eng. Chem. 49: 68-103 (Jan. 1957). (771)

New method for preparing cellulose thiourethanes, by A. L. Allewelt and W. R. Watt, p. 68-70; Cellulose phenylthiourethane fibers, by A. L. Allewelt, p. 71-78; Far-hydrolyzed cellulose acetates, by C. J. Malm and others, p. 79-83; Preparation of phthalic acid esters of cellulose, by C. J. Malm and others, p. 84-88; Biological degradation of cellulose derivatives, by E. T. Reese, p. 89-93; Rheology of sodium carboxymethylcellulose solutions, by E. H. deButts, J. A. Hudy, and J. H. Elliott, p. 94-98; Temperature-viscosity relationships for water-soluble cellulose ethers, by A. B. Savage, p. 99-103.

EXPERIMENTAL EVALUATION OF THE LATERAL-ORDER DISTRIBUTION IN CELLULOSE. R. H. Marchessault and J. A. Howsmon (Am. Viscose Corp.). Textile Research J. 27: 30-41 (Jan. 1957). (772)

The lack of agreement among various crystallinity and accessibility methods for cellulosic materials is explained in terms of the lateral-order distribution concept. A new definition of the order function is proposed which is more in keeping with recent infrared evidence showing that celluloses differ in distribution of hydrogen bond strengths rather than in actual number of hydrogen bonds. Some of the physical and chemical methods which can give empirical-order distribution information for native and regenerated samples are reviewed critically, and some data are compared with results based on conventional crystalline-amorphous delineation. 31 references.

CRYSTALLINITY OF CELLULOSE: DETERMINATION FROM MOISTURE REGAIN. G. C. Gibbons. (Letter to the editor). Chemistry & Industry No. 2: 44 (Jan. 12, 1957). (773)

ABSORPTION OF ALKALI BY WOOL KERATIN FROM AQUEOUS SOLUTIONS OF SODIUM CARBONATE AND BICARBONATE. R. P. Harker (Wool Industries Res. Assoc.). J. Soc. Dyers Colourists 73: 17-23 (Jan. 1957). (774)

Sorption of alkali by wool from aqueous solutions of sodium carbonate and bicarbonate was examined by

measurement of hydrogen-ion concentrations. The effects of concentration of alkaline salt, time of immersion, liquor ratio, and temperature of equilibration were studied in relation to subsequent measurement of the pH of an aqueous extract of a treated sample. A qualitative interpretation of results is given, and a quantitative treatment employing the Donnan theory of membrane equilibria is attempted. 14 references.

KERATINIZATION OF HORN. K. M. Rudall (Leeds Univ.). Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. F176-F185. (775)

ACETONE FROM SIMPLE SUGARS. P. K. Saha, A. K. Mazumdar and P. B. Sarkar (Indian Central Jute Comm.). (Letter to the editor). Textile Research J. 27: 85 (Jan. 1957). (776)

Data on the formation of acetone on distillation of simple sugars and jute with acid and alkali.

PHYSICS G 2

GENERATION OF STATIC ON SOLID INSULATORS. P. S. H. Henry (Shirley Inst.). J. Textile Inst. 48: P5-P25 (Jan. 1957). (777)

The processes which occur when static charges are generated on polymeric insulating surfaces by contact with other surfaces are discussed. A simple model is postulated and, on the basis of this, 6 basic processes are predicted which are expected to occur with all surfaces. Various other processes, suggested for particular types of surface, are examined. 32 references.

RELATION BETWEEN COEFFICIENT OF FRICTION, CONDUCTIVITY, AND STATIC ELECTRIFICATION INDUCED BY FRICTION IN CELLULOSE ACETATE YARNS. G. Quintelier, M. Warzée and R. Sioncke. J. Textile Inst. 48: P26-P39 (Jan. 1957). (778)

Apparatus for measuring static electrification, coefficient of friction, and conductivity is described, and their relationship examined on 100-denier cellulose acetate finished with different oils and antistatic agents. To avoid static in yarn processing it is desirable that yarns have low coefficients of friction and the largest possible conductivity. Diagrams. 4 references.

RELATION BETWEEN STRUCTURE, DIELECTRIC CONSTANT, AND ELECTRICAL RESISTANCE OF FIBERS. J. W. S. Hearle. J. Textile Inst. 48: P40-P54 (Jan. 1957). (779)

Factors affecting the electrical resistance of fibers are considered because of their influence on the occurrence of static charges. A summary of dielectric properties of fibers is included, and the influence of molecular structure is discussed. 22 references.

REDUCTION OF STATIC ELECTRIFICATION BY INCORPORATING VISCOSE RAYON CONTAINING CARBON. J. Boyd and D. Bulgin. J. Textile Inst. 48: P66-P99 (Jan. 1957). (780)

The role of humidification of fabrics in reducing static and the properties of a viscose rayon yarn containing carbon which has appreciable electrical conductivity under all conditions of relative humidity are considered. Data on moisture regain of normal and experimental fabrics are given. 19 references.

STATIC ELECTRIFICATION OF FIBERS ON THE COTTON CARD AND DRAWFRAME. A. G. Beaumont. J. Textile Inst. 48: P100-P111 (Jan. 1957). (781)

Measurements of charge density and associated electrical resistance for a variety of natural and man-made staple fibers during carding and drawing show that the electrical resistance of the fiber assembly is the most important, but not the only, factor affecting the degree of electrification. The mechanism of action of antistatic agents is considered with reference to the data obtained. 8 references.

ANTISTATIC AGENTS AS APPLIED TO WOOL. J. A. Medley. J. Textile Inst. 48: P112-P122 (Jan. 1957). (782)

The relative freedom of wool from static processing troubles is discussed in relation to factors such as the rough scaly surface, the power to sorb and retain electrolytes, the effect of oils in developing the conducting films, etc. 9 references.

ATOMICS AND TEXTILES. PART 1. RADIOACTIVE TRACER ATOMS. J. W. S. Hearle. Skinner's Silk & Rayon Record 31: 154-159 (Feb. 1957). (783)

A simplified explanation of radioactive isotope formation introduces a discussion of isotope applications to textile problems. Diagrams. Photographs.

RADIOISOTOPES: APPLICATIONS IN THE TEXTILE INDUSTRY. PART 1. Texture 3: 87-94 (Sept. 1956). (784)

Radioisotopes are used in the textile industry as a source of atmospheric ionization, as a constant source of radiation built into an instrument so that a property of a product can be measured, for purposes of location, as an indicator for analytical work, and as tracers to determine the mechanism of a reaction or a physical process. Examples of these applications are given. 11 references.

RADIOISOTOPES: APPLICATIONS IN THE TEXTILE INDUSTRY. PART 2. Texture 3: 127-131 (Dec. 1956). (785)

Applications of radioisotopes to color soiling in fabric printing, control of padding processes, process control, and analytical work are covered. 13 references.

TEXTILE APPLICATIONS OF SONIC TECHNIQUES. M. G. Junger. Am. Dyestuff Reptr. 46: P58-P59 (Jan. 28, 1957). (786)

The applications of ultrasonics to wool scouring, laundering, and dyeing are discussed. 8 references.

COMPARISON OF SUCCESSIVE WITH SIMULTANEOUS COLOR MATCHING. S. M. Newhall, R. W. Burnham and J. R. Clark. J. Optical Soc. Amer. 47: 43-56 (Jan. 1957). (787)

A study using 25 colors showed that successive or memory color matching was considerably more variable, but faster than simultaneous, juxtaposed matching, and that more purity and somewhat more luminance were required to complete color matches by memory than by simultaneous matches.

ART OF COLOR MATCHING. J. C. Holle. Interchem. Rev. 15, No. 3: 59-73 (1956). (788)

The parts played by physics, chemistry, physiology, and psychology in color perception are discussed. Graphs. Diagrams. 5 references.

ELECTRICAL RESISTANCE OF SYNTHETIC AND CELLULOSE ACETATE FIBERS. R. Dumon. Reply: J. W. S. Hearle. (Letters to the editor). J. Textile Inst. 48: T35-T37 (Jan. 1957). (789)

The electrical resistance of polyamides, in fiber and molded form, and the effects of moisture content on this property are discussed. Graphs.

DIELECTRIC PROPERTIES OF WOOL WAX AND SOME DERIVATIVES. J. S. Cook, J. S. Dryden and R. J. Meakins. Australian J. Appl. Sci. 7: 371-378 (Dec. 1956). (790)

Because of the potential use of wool wax as a dielectric at lower frequencies, the dielectric properties of wool wax and certain derivatives were measured over a wide range of frequencies. 11 references.

NUCLEAR IRRADIATIONS ON COTTON YARN. E. S. Gilfillan and L. Linden (Warwick Mills). Textile Research J. 27: 87-92 (Feb. 1957). (791)

Cotton yarn strength is significantly reduced by irradiation, and the presence of water vapor and atmospheric oxygen during irradiation has little or no effect on the results. Degradation products formed are principally oxycellulose of the acidic type. An insoluble oxidizing agent, assumed to be cellulose peroxide, is also produced.

MECHANISM OF CROSS LINKING OF POLYMERS UNDER THE INFLUENCE OF RADIATIONS. B. G. Collyns, J. F. Fowler and J. Weiss. (Letter to the editor). Chemistry & Industry No. 3: 74-76 (Jan. 19, 1957). (792)

BIOLOGY G 3

ACTIVITY OF CELLULOSE-DECOMPOSING FUNGI ISOLATED FROM SEWAGE-POLLUTED WATER. W. B. Cooke and K. A. Busch. Sewage and Ind. Wastes 29: 210-217 (Feb. 1957). (793)

A study was made of fungi capable of using cellulose as a sole carbon source in sewage-polluted waters. 6 references.

MISCELLANY H

TEXTILE RESEARCH ACHIEVEMENTS IN 1956. J. B. Goldberg. Can. Textile J. 74: 59-62 (Feb. 8, 1957); 51-55 (Feb. 22, 1957); Modern Textiles Mag. 38: 63-71 (Feb. 1957). (794)

Summary of world-wide textile research developments during 1956.

TEXTILES. J. F. Krasny and M. Harris. Ind. Eng. Chem. 49: 46A-48A (Jan. 1957). (795)

Chemical process industries: 1956 annual review. Includes fiber developments, finishes, dyeing, and coated and nonwoven fabrics.

ANNUAL REVIEW OF NEW EQUIPMENT AND SUPPLIES AND NEW DYES AND CHEMICALS. Textile World 107: 113-147, 153-164, 212-220 (Feb. 1957). (796)

NEW PRODUCTS REVIEW. Textile Age 20: 26-60 (Nov. 1956). (797)

Highlights of new yarn preparation, weaving, knitting, dyeing, and finishing machinery, motors and drives, testing equipment, sewing machinery, fabric handling equipment, dyes, textile chemicals, finishes, yarns, and fibers.

REPORT ON SOUTHERN TEXTILE EXPOSITION IN GREENVILLE, S. C. Modern Textiles Mag. 37: 60-62, 65 (Nov. 1956); 48-50 (Dec. 1956). (798)

INTERNATIONAL KNITTING MACHINERY EXHIBITION, LEICESTER, OCTOBER 1956. Dyer 116: 767-772 (Nov. 9, 1956). Hosiery Times 29: 28-105 (Oct. 1956); 11-21, 104 (Nov. 1956). Knitter 20: 42-45 (Nov. 1956); 37-40 (Dec. 1956); 36-40 (Jan. 1957). J. Textile Inst. 47: P1035-P1039 (Dec. 1956). Textile Recorder 74: 100-159 (Nov. 1956); 94-115 (Dec. 1956). Textile World 107: 86-87, 172 (Jan. 1957). (799)

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington, 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

YARN PRODUCTION B

BROKEN YARN DETECTOR AND STOP-MOTION, USING COMB INSTEAD OF PERFORATED DISC FILTER. E. Breuning (Germany). BP 745 677, Feb. 29, 1956. Through BCIRA 36: 684 (1956). (800)

THREAD-PROCESSING REEL. Courtaulds Ltd. BP 745 885, Mar. 7, 1956. Through BCIRA 36: 678 (1956). (801)

NOISE ELIMINATION IN WASTE COLLECTING VACUUM SYSTEM. F. E. Rowe, Jr. (to Abington Textile Machy. Works). USP 2 781 164, Feb. 12, 1957. (802)

Unit for attachment to a suction system utilizing a centrifugal pump which will eliminate squealing.

OPENING, PICKING, FIBER PREPARATION B 1

APPARATUS FOR BLENDING AND MIXING FIBERS. W. M. Oddie (Spencer & Halstead Ltd). BP 744 269, Feb. 1, 1956. Through BCIRA 36: 651 (1956). (803)

CONTROLLING THE RISING OF A PICKER LAP MANDREL IN ITS RACKS WITH A FRICTION CLUTCH. W. J. Senior and J. Collins (to T.M.M. (Research) Ltd). BP 744 953, Feb. 15, 1956. Through BCIRA 36: 651 (1956). (804)

MACHINE FOR SEPARATING AND DRYING FIBROUS MATERIAL AND FORMING A LAP. Fleissner & Sohn Maschinenfabrik. BP 745 398, Feb. 22, 1956. Through BCIRA 36: 682 (1956). (805)

STAPLE FIBER OPENER. R. C. Young and R. A. Rusca. USP 2 780 839, Feb. 12, 1957. (806)

Machine for simultaneously untangling staple fibers (1/2 to 2-1/2 in.) and removing non-fibrous particles with minimum nep formation.

CARDING AND COMBING B 2

ELECTROMAGNETIC DEVICE FOR OSCILLATING THE DOFFER COMB OF A CARDING ENGINE AT HIGH SPEED. J. R. Walton (to Johnson & Johnson). BP 744 786, Feb. 15, 1956. Through BCIRA 36: 652 (1956). (807)

MOUNTING CARD FILLET. S. W. Dronsfield (to Dronsfield Bros. Ltd). BP 745 562, Feb. 29, 1956. Through BCIRA 36: 683 (1956). (808)

CARD CLOTHING CLEANING. G. W. Vaughan, Jr. and C. R. Sacchini (to Curtiss-Wright Corp.). USP 2 779 063, Jan. 29, 1957. (809)

Mechanism for continuous suction cleaning of card clothing during the normal operation of the card.

HIGH-SPEED COMBING MACHINE NIPPER AND DETACHING MECHANISM. J. R. Foster (to T.M.M. (Research) Ltd). USP 2 781 556, Feb. 19, 1957. (810)

DRAWING AND ROVING B 3

ARRANGEMENT FOR REMOVING FLUFF FROM THE ROLLERS OF A TWO-ZONE HIGH-DRAFT SYSTEM. J. S. Norris. BP 744 156, Feb. 1, 1956. Through BCIRA 36: 653 (1956). (811)

SYNTHETIC RUBBER SOLUBLE ALGINATE MIXTURE FOR ROLLER COTS OR DRAFTING APRONS. G. E. Watts (to Resilia Cots & Rollers Ltd). BP 744 242, Feb. 1, 1956. Through BCIRA 36: 653 (1956). (812)

WEIGHTING DEVICE FOR TOP DRAFTING ROLLERS. Soc. Alsacienne de Constructions Mécaniques. BP 744 263, Feb. 1, 1956. Through BCIRA 36: 653 (1956). (813)

SYSTEM FOR DRAFTING AND CONSOLIDATING WEAK SLIVERS FROM THE DRAWFRAME. Deutscher Spinnereimaschinenbau Ingolstadt. BP 745 132, Feb. 22, 1956. Through BCIRA 36: 684 (1956). (814)

DRAFTING SYSTEM BAND WORKING SURFACES FORMED OF CONDENSATION PRODUCTS OF POLYESTERS AND ISOCYANATES. A. Bockemühl (to Globus Gummi- und Asbest-werke GmbH). BP 745 224, Feb. 22, 1956. Through BCIRA 36: 683 (1956). (815)

DRAFTING MACHINE STOP MOTION. J. R. Bee (to Fairbairn Lawson Combe Barbour Ltd). BP 745 463, Feb. 29, 1956. Through BCIRA 36: 683 (1956). (816)

SLIVER COILER FEED ROLL MOUNTING. R. C. Berker. USP 2 780 841, Feb. 12, 1957. (817)

SPINNING, WINDING, TWISTING B 4

RING SPINNING FRAME. L. Vella (Italy). BP 744 083, Feb. 1, 1956. Through BCIRA 36: 653 (1956). (818)

CLUTCH FOR MAKING A DRIVING CONNECTION BETWEEN A SPINDLE AND A YARN PACKAGE CARRIER. D. R. Clark (to T.M.M. (Research) Ltd). BP 744 226, Feb. 1, 1956. Through BCIRA 36: 653 (1956). (819)

SINTERED METAL DOUBLING RING. M. H. Lindsey (to Morgan Crucible Co.). BP 744 254, Feb. 1, 1956. Through BCIRA 36: 653 (1956). (820)

DOUBLE-APRON DRAFTING SYSTEM. E. Zinser, H. Wahl, C. Zinser and H. Repky. BP 745 127, Feb. 22, 1956. Through BCIRA 36: 684 (1956). (821)

CARRIER ARM FOR THE UPPER ROLLERS OF A DRAFTING HEAD. C. Warrington (to Tweedales & Smalley (1920) Ltd). BP 745 156, Feb. 22, 1956. Through BCIRA 36: 684 (1956). (822)

FOSTER TYPE CONE AND CHEESE WINDING MACHINE. T. L. Wright. BP 745 261, Feb. 22, 1956. Through BCIRA 36: 687 (1956). (823)

ANNULAR DEVICE FOR CONSTRICTING BALLOONING YARN ON A RING FRAME. P. F. Grishin, W. H. Watson and S. L. Cole (to T.M.M. (Research) Ltd). BP 745 582, Feb. 29, 1956. Through BCIRA 36: 684 (1956). (824)

TWISTING MACHINERY FOR TIRE CORD. F. Ridgway (to Arundel, Coulthard & Co. Ltd). BP 745 598, Feb. 29, 1956. Through BCIRA 36: 685 (1956). (825)

DRAFTING APPARATUS FOR WIDE RANGE OF STAPLE LENGTHS COMPRISING TWO CONSECUTIVE ZONES, THE TOP SINGLE-APRON SYSTEM AND THE DOUBLE-APRON SYSTEM. W. H. Watson and R. J. Summers (to T.M.M. (Research) Ltd). BP 745 615, Feb. 29, 1956. Through BCIRA 36: 684 (1956). (826)

DOUBLE-TWIST SPINDLE FOR SPINNING AND TWISTING MACHINES. G. W. R. Fane. BP 745 959, Mar. 7, 1956. Through BCIRA 36: 685 (1956). (827)

CARD-SPINNING MACHINE APPARATUS FOR DIRECT SPINNING. W. Lüttgen and W. Nachtmann (to Luttgen KG). USP 2 778 186, Jan. 22, 1957. (828)

Apparatus consisting of a carding machine and a spinning machine with guide means directly connecting them for continuously feeding rovings from the card to the spinning machine guide rollers.

TRAVELER. T. M. Hurst (to Celanese Corp.). USP 2 780 048, Feb. 5, 1957. (829)

Ring frame traveler shaped to form a slot for preventing slub passage.

SPINDLES. E. Findlow (to Ernest Scragg & Sons Ltd). USP 2 780 049, Feb. 5, 1957. (830)

Funnel-like passageway for feeding oil upwards in heavy duty, non-rotating spindle mounted in a bolster.

DRAFTING SYSTEM FOR SPINNING MACHINE. H. L. P. Ude (to Schiess AG). USP 2 780 840, Feb. 12, 1957. (831)

Drafting system for spinning machines which permits the use of return rollers for the drafting aprons while reducing the distance between guide members to a minimum.

BROKEN-THREAD EXHAUSTER FOR SPINNING FRAMES. H. C. Bechtler (to Pneumafil Corp.). USP 2 780 908, Feb. 12, 1957. (832)

Photoelectric cell control device which stops the spinning frame on thread breakage and retards the starting of a suctional thread exhauster until after the spinning frame resumes operation.

YARN MOISTENER FOR WINDING MACHINE. W. Schmitz. USP 2 781 021, Feb. 12, 1957. (833)

Porous plate for moistening yarn during winding.

HORIZONTAL YARN WINDER. S. A. Petersen (to Celanese Corp.). USP 2 781 177, Feb. 12, 1957. (834)

Hydraulic damping mechanism for a horizontal yarn winder for maintaining uniform pressure between yarn package and drive roll.

ANTI-BALLOONING SPINDLE FOR RING SPINNING MACHINE. W. J. Netelenbos, M. Otger and J. G. Robbenhaar (Netherlands). USP 2 781 627, Feb. 19, 1957. (835)

YARNS B 5

YARN PRODUCTION FROM THERMOPLASTICALLY BONDED FIBERS. E. Bobkowicz. BP 744 272, Feb. 1, 1956. Through BCIRA 36: 652 (1956). (836)

CRIMPING SYNTHETIC FIBER YARNS BY FALSE-TWISTING FOLLOWED BY HEATING AND COOLING. Heberlein & Co. AG. BP 744 735, 744 736, and 744 737, Feb. 15, 1956. Through BCIRA 36: 654 (1956). (837)

PRODUCTION OF CRINKLED YARN. Moulinage et Retorderie de Chavanoz. BP 745 337, Feb. 22, 1956. Through BCIRA 36: 685 (1956). (838)

PLASTIC JACKETED SEWING THREAD SPOOL. L. H. Morin (to Coats & Clark Inc.). USP 2 773 657, Dec. 11, 1956. (839)

COMPOSITE STRETCH YARN. W. J. Leath and F. E. Bobo (to Patentex, Inc.). USP 2 778 187, Jan. 22, 1957. (840)

Composite stretch yarn is composed of a twisted yarn plied with a soluble untwisted temporary restraining yarn.

COMPOSITE GLASS AND ASBESTOS YARN. I. J. Novak (to Raybestos-Manhattan, Inc.). USP 2 778 763, Jan. 22, 1957. (841)

Glass-asbestos yarn made of glass filaments coated with and spaced apart by the dry residue of a liquid dispersion of chrysotile asbestos fibers of colloidal diameter.

GLASS YARNS. A. R. Morrison (to Owens-Corning Fiberglas Corp.). USP 2 778 764, Jan. 22, 1957. (842)

Increasing the abrasion resistance of glass fibers and forming a yarn by fusing bundles of glass fibers coated with cationic dispersions of polyamide resins and a lubricant.

FABRIC PRODUCTION C

WARPING, SLASHING, YARN PREPARATION C 1

HYDRAULIC APPARATUS FOR LIFTING AND SUPPORTING WINDING BEAMS. Gebrüder Sucker GmbH. BP 745 164 and 745 418, Feb. 22, 1956. Through BCIRA 36: 687 (1956). (843)

YARN TENSION GUIDE. E. M. Ayars, Jr. (to Am. Viscose Corp.). USP 2 781 181, Feb. 12, 1957. (844)

Yarn tension guide for use in creeling which retains the yarn loop at the tensioning discs during suspension and resumption of warping.

WEAVING C 2

THREAD CLAMPING DEVICES FOR WEFT REPLENISHING LOOMS. W. V. Gledhill and A. Chappell. BP 744 491, Feb. 8, 1956. Through BCIRA 36: 656 (1956). (845)

SECURING A RUBBER IMPACT BODY IN A METAL PICKER STICK. H. Robinson (to Geo. Angus & Co. Ltd). BP 744 860, Feb. 15, 1956. Through BCIRA 36: 655 (1956). (846)

GEAR DRIVE FOR A DOBBY LOOM FOR WEAVING DOUBLE PLUSH. T. A. Gusken and O. Jansen (Germany). BP 744 881, Feb. 15, 1956. Through BCIRA 36: 655 (1956). (847)

SHUTTLE GUARD. A. Greenwood. BP 745 345, Feb. 22, 1956. Through BCIRA 36: 688 (1956). (848)

WEFT STOP-MOTION. H. Du Rietz and G. E. Hansson. BP 745 981, Mar. 7, 1956. Through BCIRA 36: 688 (1956). (849)

AUTOMATIC LOOM. G. A. Litchfield, Jr. (to Forstmann Woolen Co.). USP 2 777 473 and 2 777 474, Jan. 15, 1957. (850)

Automatic weft replenishing loom for continuously weaving patterns of widely varying types, including those requiring alternating pick and pick weaving with 2, 3, or 4 shuttles.

BOBBIN REPLENISHING MEANS. W. H. Banks (to Draper Corp.). USP 2 778 382, Jan. 22, 1957. (851)

Combined gravity and vibrational feed means for supplying bobbins to the loom battery directly from the spinning, winding, treating, etc., departments.

THREAD CUTTER FOR AUTOMATIC LOOMS. N. Brunner (to Adolphe Saurer SA). USP 2 778 383, Jan. 22, 1957. (852)

Device for removing the loose piece of thread which extends during the pirn exchange between the fabric border and the shuttle.

COLLAPSIBLE HOOK FOR THREADING HEDDLES AND REED. H. W. Bolick. USP 2 779 991, Feb. 5, 1957. (853)

KNITTING C 3

LUBRICATING YARN AT A CIRCULAR KNITTING MACHINE. G. E. Stokes (to Hosiery & Allied Trades Res. Assoc.). BP 744 527, Feb. 8, 1956. Through BCIRA 36: 656 (1956). (854)

PILE FABRIC KNITTING MACHINE. D. P. Moore. USP 2 779 176, Jan. 29, 1957. (855)

STRAIGHT BAR KNITTING MACHINE CATCHBAR MECHANISM. H. E. Haehnel (to Textile Machine Works). USP 2 779 177, Jan. 29, 1957. (856)

WARP KNITTING MACHINE STOP-MOTION. F. Lambach and W. Siegel (to Robert Reiner, Inc.). USP 2 779 448, Jan. 29, 1957. (857)

Electrical clutch and brake control for stopping a warp knitting machine at a predetermined position of the knitting cycle.

AUTOMATIC LOOP TRANSFER. R. E. Zeruneith. USP 2 780 082, Feb. 5, 1957. (858)

Circular knitting machine needle permitting simultaneous twisting and transfer of yarn.

YARN TRAVERSING MECHANISM. K. Howie (to Wildman Mfg. Co.). USP 2 780 083, Feb. 5, 1957. (859)

Traverse mechanism for a knitting machine with flexible band yarn carrier drive.

HOSIERY MACHINERY. R. H. Lawson and P. W. Bristow (to Scott & Williams, Inc.). USP 2 780 931, Feb. 12, 1957. (860)

Mechanism and method for knitting heels and toes while permitting patterning, without interruption, through the stocking instep.

KNITTING MACHINE NEEDLE BED. R. Kuentz (France). USP 2 780 932, Feb. 12, 1957. (861)

The removable needles of a needle bed are kept in position by a guide strip, hooked by its ends to the bed.

FABRICS C 4

FORMING MULTI-LAYER FIBER FLEECES WITHOUT IRREGULAR THICKNESSES AT OVERLAPPING EDGES. J. Lohmann, G. A. Barth and K. Lohmann (to Firma Lohmann KG). BP 744 733, Feb. 15, 1956. Through BCIRA 36: 652 (1956). (862)

ADHESIVE TAPE FOR DEFINING THE FOLD LINE OF A ONE-PIECE COLLAR. L. Bihaly (to Trubenised (Gt. Britain) Ltd). BP 745 056, Feb. 22, 1956. Through BCIRA 36: 688 (1956). (863)

WEFTLESS RIBBON-LIKE MATERIALS MADE FROM FLAT GROUPS OF PARALLEL YARNS BONDED WITH A RUBBERY CONDENSATION POLYMER. J. Downing and R. J. Brown (to Brit. Celanese Ltd). BP 745 644, Feb. 29, 1956. Through BCIRA 36: 683 (1956). (864)

VENETIAN BLIND LADDER WEBBING. G. F. French and R. French (England). USP 2 775 265, Dec. 25, 1956. (865)

NONWOVEN FABRIC. K. J. Harwood and H. J. Le Dain (to Kimberly-Clark Corp.). USP 2 777 779, Jan. 15, 1957. (866)

Nonwoven fibers adhesively bonded to at least one surface of a loosely woven material to give the tensile strength of woven fabric together with the smoothness and softness of nonwoven fibers for various sanitary and other uses.

CHENILLE CARPETS. G. J. Underwood and D. H. Shuttleworth (to Mohasco Industries). USP 2 779 354, Jan. 29, 1957. (867)

Novel chenille fabric, consisting of loops only, of both loops and tufts, or of tufts only, in which the chenille fur pile is laid in place at the usual intervals, but is not combed to erect position with the loom stopped. The pile has a desirable rough texture.

PILE FABRIC. P. Miller and R. F. Bardsley (to Alexander Smith, Inc.). USP 2 780 245, Feb. 5, 1957. (868)

Velvet-type pile fabric made of a combination of loops and tufts of 3 or more different heights in the same row, the highest loop being slightly lower than the lowest tuft.

TUFTING MACHINE. R. L. Thompson (to Callaway Mills Co.). USP 2 781 007, Feb. 12, 1957. (869)

Tufting machine for pile fabric containing loops of varying heights.

FINISHING AND CHEMICAL PROCESSING D

CHEMICAL PROCESSES D 1

DESIZING GLASS FIBERS AND FABRICS. B. J. Brown and B. Taylor (to Fothergill & Harvey Ltd). BP 744 424, Feb. 8, 1956. Through BCIRA 36: 660 (1956). (870)

FABRIC STEAMING MACHINE TENSION CONTROL. T. Bailey. BP 744 661, Feb. 15, 1956. Through BCIRA 36: 663 (1956). (871)

MACHINE FOR COOLING AND RECONDITIONING TEXTILES AFTER TREATMENT SUCH AS HOT PRESSING IN A ROTARY PRESS. A. D. Heaton (to Arthur Heaton & Co. Ltd). BP 744 749, Feb. 15, 1956. Through BCIRA 36: 663 (1956). (872)

PERMANENT LOCAL EMBOSSED EFFECTS ON COTTON. Heberlein & Co. AG. BP 745 117, Feb. 22, 1956. Through BCIRA 36: 694 (1956). (873)

TREATMENT OF POLYVINYL ALCOHOL FIBERS TO IMPROVE ELASTIC PROPERTIES, HEAT RESISTANCE WHEN WET, AND WATER REPELLENCY. Kurashiki Rayon KK. BP 745 219, Feb. 22, 1956. Through BCIRA 36: 680 (1956). (874)

PRESSURE BLEACHING OF VEGETABLE FIBERS WITH ALKALINE PEROXIDE SOLUTIONS ABOVE 100° C. K. W. Richmond and G. C. Woodford (to Laporte Chemicals Ltd). BP 745 267, Feb. 22, 1956. Through BCIRA 36: 693 (1956). (875)

ROTPROOFING CELLULOSIC FIBERS, YARNS, AND FABRICS WITH MELAMINE AND FORMALDEHYDE RESINS. Ciba Ltd. BP 745 638, Feb. 29, 1956. Through BCIRA 36: 695 (1956). (876)

COATING OR IMPREGNATING BY HOT-CALENDERING WITH POLYESTERS AND ISOCYANATES. Farbenfabriken Bayer AG. BP 745 960, Mar. 7, 1956. Through BCIRA 36: 695 (1956). (877)

RUBBER-FABRIC LAMINATES. W. B. Reynolds (to Phillips Petroleum Co.). USP 2 774 703, Dec. 18, 1956. (878)

Bonding agent for rubber-fabric laminates consists of an aqueous solution of a copolymer of a conjugated diene with acrylic acid or methacrylic acid.

PLASTIC BONDED GLASS YARNS. A. H. Davis. USP 2 775 022, Dec. 25, 1956. (879)

Glass (or synthetic) yarns with improved physical properties and resistance to chemical and biological attack are produced by heating to get out all extraneous matter, and applying a dispersion of vinyl plastic to the loosened strand so that the fibers are separated and bonded together by the plastic.

FINISHING MACHINERY. H. Kabelitz (to Gebr. Sucker GmbH). USP 2 775 046, Dec. 25, 1956. (880)

Apparatus for the treatment of yarn, warp, fabric, etc., with gaseous or vaporized processing agents, as the material travels through a confined space, in drying, fixing of dyes, steaming, impregnating, dressing, shrinking, bleaching, or polymerizing.

RESILIENT DRIVE SHAFT FOR YARN LIQUID TREATING MACHINE. H. G. Sass (to Joh. Kleinewefers Söhne). USP 2 776 049, Jan. 1, 1957. (881)

Drive shaft with resilient parts to enable a strand to be treated at low tension, in spite of shrinkage or stretching during treatment.

MULTIPLE COATED CALENDERED PATTERN FABRIC. W. W. Russell and H. C. Allen (to Sayles Finishing Plants). USP 2 776 868, Jan. 8, 1957. (882)

Finishing cellulosic fabrics to produce a calendered pattern, permanent to washing and drycleaning, while preventing any tendering of the underlying fabric.

DRYCLEANING AND BRIGHTENING OF TEXTILES. F. Fleck (to Sandoz AG). USP 2 776 909, Jan. 8, 1957. (883)

Combined drycleaning and optical brightening is achieved by use of a drycleaning solvent and a coumarin derivative.

PERMANENT LOCAL GOFFERED EFFECTS. F. Vonaesch (to Heberlein Patent Corp.). USP 2 777 186, Jan. 15, 1957. (884)

Permanent local goffered effects are produced along-

side smooth portions of a fabric by printing a local pattern on cotton fabric with formaldehyde resin precondensate, overall goffering the fabric, condensing, washing to remove some of the goffering from the unprinted portion, and then treating with a goffer-removing agent.

STABILIZING CELLULOSE ACETATE KNIT FABRIC WITH SUPERHEATED STEAM. B. S. Sprague, M. N. Carroll and R. H. Roughsedge (to Celanese Corp.). USP 2 777 750, Jan. 15, 1957. (885)

COLORING GLASS FABRICS. R. Steinman and W. F. Eberz (to Alexander H. Kerr & Co.). USP 2 778 746, Jan. 22, 1957. (886)

Soft, flexible, wash-resistant colored glass fabrics are produced by treating a clean glass fabric with a water soluble hydrolysis product of an alkyl-alkoxysilane in combination with a non-cationic wetting agent and a water dispersible coloring agent.

FLAMEPROOFING COMPOSITION. J. W. Weaver. USP 2 778 747, Jan. 22, 1957. (887)

Flameproofing with triallyl phosphate-polyhalomethane polymer agents.

SYNTHETIC YARN STORAGE DRUM. W. A. Sisson (to Am. Viscose Corp.). USP 2 779 457, Jan. 29, 1957. (888)

Thread advancing apparatus for synthetic yarn storage drums for either liquid treatment or drying.

FLAMEPROOFING CELLULOSIC MATERIALS. A. M. Loukomsky (to Am. Cyanamid Co.). USP 2 779 691, Jan. 29, 1957. (889)

Flameproofing cellulosic material by impregnating with a water-soluble salt of guanylmelamine and treating with pyrophosphoric acid or a water-soluble salt. A resinous binder may be added for washfastness.

FLUID TREATMENT OF SLIVER OR FIBER PACKAGES. R. C. Wilkie (to Pacific Mills). USP 2 779 977, Feb. 5, 1957 and 2 780 838, Feb. 12, 1957. (890)

In the liquid treatment of bulk fiber or sliver packages, the fibers are compressed into a circular cylinder with an axial opening, to permit steaming and cooling under pressure to set the fibers and reduce their springiness, while retaining the original package compression.

LIQUID TREATMENT APPARATUS. R. H. Roughsedge and D. Taylor (to Celanese Corp.). USP 2 780 346, Feb. 5, 1957. (891)

Yarn guide means for continuous apparatus for the simultaneous treatment of a number of strands.

FLUID TREATMENT APPARATUS FOR SYNTHETIC YARN. J. H. Givens (to Industrial Rayon Corp.). USP 2 780 347, Feb. 5, 1957. (892)

Roller arrangement in fluid treatment apparatus in which the yarn is advanced through a series of helical turns over double rollers.

WATER- AND FLAMEPROOFING TEXTILES. A. M. L. de Luxembourg. USP 2 780 566, Feb. 5, 1957. (893)

Simultaneously water- and flameproofing fabrics by applying a hot aqueous solution of aluminum sulfate, lead acetate, and hexamethylenetetramine and fixing by infrared radiation.

SHRINKPROOFING PROTEIN-CONTAINING TEXTILES. B. B. Kine, N. A. Matlin and M. D. Hurwitz (to Rohm & Haas Co.). USP 2 780 567 and 2 780 608, Feb. 5, 1957. (894)

Shrinkproofing fabrics containing protein fibers, e.g., wool, Aralac, silk, soybean, casein, etc., by application of an aqueous dispersion of a water-insoluble linear polymer of monoethylenically unsaturated monomeric compounds.

FIREPROOFING VISCOSE RAYON. J. Downing, J. W. Fisher and E. W. Wheatley (to British Celanese Ltd). USP 2 780 571, Feb. 5, 1957. (895)

High-tenacity viscose rayon fabrics of improved fire resistance are produced by impregnation with calcium oxalate.

FINISHING MACHINERY WITH CONSTANT TENSION ROLLER DRIVE. W. C. Gilfillan (to H. W. Butterworth & Sons Co.). USP 2 781 192, Feb. 12, 1957. (896)

Uniform tension and feed regulation of a continuously advancing web or rope of material is maintained by means of rollers uniformly driven from a common source of power through individual magnetic clutches.

IMPROVING THE HAND OF POLYETHYLENE TEREPHTHALATE FABRICS. P. Knapp (to E. I. du Pont de Nemours & Co.). USP 2 781 242, Feb. 12, 1957. (897)

Improving the hand of polyethylene terephthalate fabrics by heat shrinking and treating with sodium hydroxide (or other alkali metal hydroxide).

FLAMEPROOFING CELLULOSE AND PROTEIN TEXTILES. A. Berger (to Ciba Ltd). USP 2 781 281, Feb. 12, 1957. (898)

Application of a flameproofing composition consisting of the reaction product of urea and an oxygen-containing phosphorus compound, and a methylol-melamine. 7 examples.

DYEING AND PRINTING D 2

COLORING AND EMBOSSING PROCESS FOR THERMOPLASTIC MATERIALS. Raduner & Co. AG. BP 744 177, Feb. 1, 1956. Through BCIRA 36: 662 (1956). (899)

WET PROCESSING OF YARN PACKAGES. G. S. Helliwell (to Mellor Bromley & Co. Ltd). BP 744 418, Feb. 8, 1956. Through BCIRA 36: 661 (1956). (900)

APPARATUS FOR REPLENISHING THE LAYER OF DYE LIQUOR FLOATING ON A MOLTEN METAL BATH AS FAST AS THE DYE IS ABSORBED. R. S. E. Hannay and W. Kilby (Standfast Dyers & Printers Ltd). BP 744 461, Feb. 8, 1956. (Addition to BP 620 584). Through BCIRA 36: 661 (1956). (901)

PRODUCING DYEINGS FAST TO CROSS-DYEING ON CELLULOSE ACETATE, POLYAMIDES, AND POLYURETHANES. Farbwerke Hoechst AG. BP 745 830, Mar. 7, 1956. Through BCIRA 36: 694 (1956). (902)

PRINTING ATTACHMENT FOR EMBOSSING MACHINES. W. P. Rose. USP 2 774 328, Dec. 18, 1956. (903)

Pigment tipping attachment for embossing calenders to effect fabric coloring at the time of the embossing.

DYEING MAN-MADE FIBERS WITH VAT DYES. J. M. Mecco and J. W. Creely (to Am. Cyanamid Co.). USP 2 774 647, 648, and 649, Dec. 18, 1956. (904)

Polyester (USP 2 774 647), polyacrylonitrile (USP 2 774 648), and cellulose acetate (USP 2 774 649) fibers may be successfully vat dyed by using a high temperature and keeping the pH of the dye bath between 6 and 8, preferably between 6.5 and 7.5.

AGEING EQUIPMENT FOR FABRIC PRINTING. J. C. Thomas and G. T. Gore (to Riegel Textile Corp.). USP 2 777 312, Jan. 15, 1957. (905)

Ageing equipment which may be employed effectively to develop print colors during the printing operation.

AGEING AZOIC PRINTED FABRICS. J. C. Thomas, G. T. Gore and D. L. Simmons (to Riegel Textile Corp.). USP 2 777 748, Jan. 15, 1957. (906)

A preliminary or partial ageing of printed azoic fabrics, immediately after printing and drying, to detect any defects occurring in printing, is followed by storage long enough to permit the remaining acid to effect further color development, and by further acid and steam treatment to fully develop the printed pattern.

FABRIC DYEING MACHINERY. D. Fornelli (Italy). USP 2 779 183, Jan. 29, 1957. (907)

Creating greater turbulence in the dye liquor of a continuous fabric dyeing apparatus.

DYEING ACRYLIC FIBERS. R. M. Rochester and J. S. Beattie (to Deering Milliken Research Corp.). USP 2 779 726, Jan. 29, 1957. (908)

In this method for dyeing acrylic fiber an alternating electric current is passed through a dyebath containing an acid dye and a cupric salt prior to the actual dyeing operation.

PRINTING PASTE BINDERS. K. Reinartz, W. Graulich, W. Lehmann and H. Kleiner (to Farbenfabriken Bayer AG). USP 2 780 562, Feb. 5, 1957. (909)

A printing paste binder consisting of an aqueous emulsion of an addition polymer and a resinous polyamine, a pigment, thickening agent, and emulsifier.

MECHANICAL PROCESSES D 3

TEMPERATURE CONTROL FOR CALENDER ROLLS. C. F. Schneider and R. D. Turkington (to Armstrong Cork Co.). USP 2 771 246, Nov. 20, 1956. (910)

Calender roll with closed loop for circulation of cooling or heating fluid and automatic means for transferring from one to the other according to roll surface temperature fluctuations.

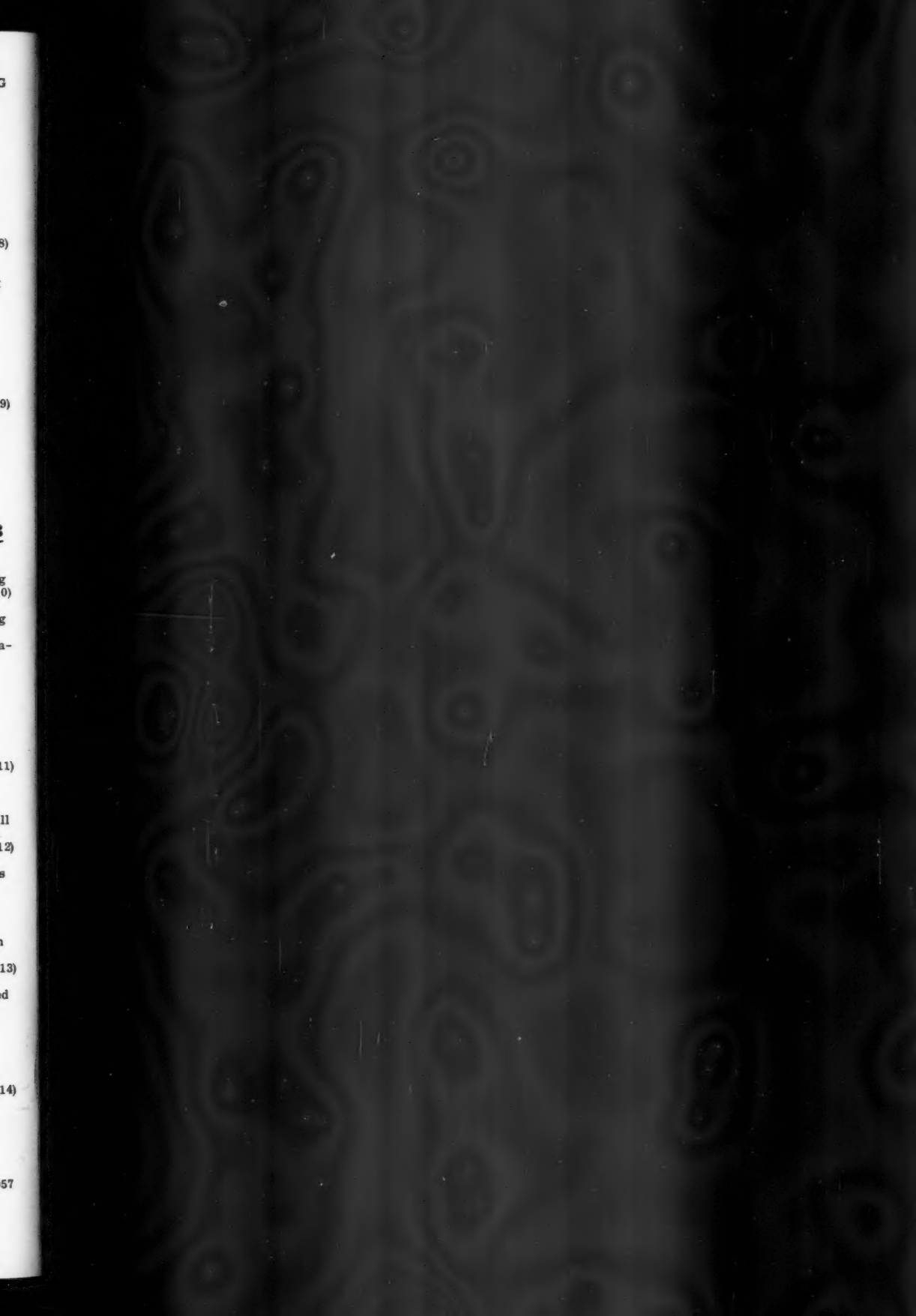
EXPANDER AND CONTRACTOR ROLLS FOR CHANGING THE WIDTH OF MATERIALS DRAWN PARTLY AROUND THEM. L. M. Gageant (to James Hunter Mach. Co.). USP 2 771 657, Nov. 27, 1956. (911)

EXPANDER AND CONTRACTOR ROLL. F. B. Morrill (to James Hunter Mach. Co.). USP 2 771 658, Nov. 27, 1956. (912)

The bearings on the curved shaft are sealed at the ends of the rubber-like roll sheath.

FLATTENING TUBULAR FABRIC. S. Cohn, E. Cohn and J. G. Walter (to Samcoe Holding Corp.). USP 2 773 296, Dec. 11, 1956. (913)

Apparatus for controlling the advance of tubular knitted fabric in flattened form during finishing.

PLEATING APPARATUS. W. H. Angevine, Jr. (to Cranston Print Works Co.). USP 2 774 525, Dec. 18, 1956. (914)

Apparatus for continuous, rapid, transverse pleating of an extended fabric web to provide irregular pleats.